IN THE CLAIMS:

What is claimed is:

Claim 1. (Currently amended) A titanium alloy with extra-low modulus and superelasticity, wherein the ~~metallic~~ titanium alloy is a ternary alloy of Ti/Nb/Zr, a quaternary alloy of Ti/Nb/Zr and one of Sn or Al, or a quinary alloy of Ti/Nb/Zr/Sn/Al, and wherein said ~~metallic~~ titanium alloy comprises:

30 wt % >niobium≥ 20 wt%, and

2~15 wt % zirconium.

Claim 2. (Previously presented) The titanium alloy of claim 1, wherein the niobium and zirconium represent 30~45 wt % in total.

Claim 3. (Currently Amended) The titanium alloy of claim 1, wherein the alloy is the quaternary or the quinary alloy, which ~~at least one component of 0.1~12 wt % selected from~~ has tin and/or aluminum present in an amount of 0.1~ 12 Wt % in total.

Claim 4. (Currently amended) The titanium alloy of claim 3, wherein the alloy is quaternary or the quinary alloy and includes tin and the zirconium and tin represent 3~20 wt % in total.

Claim 5. (Previously presented) The titanium alloy of claim 1, wherein the alloy further comprises at least one interstitial element without toxicity selected from C or N or O with amount of less than 0.5 wt %.

Claim 6. (Withdrawn) A method of fabricating the titanium alloy with super-low modulus and superelasticity of claim 1, including melting in vacuum and heat treatment, characterized in that wherein the heat treatment steps, solution treatment is at a temperature from

200 °C to 900 °C for from 10s to 2 h, followed by air cooling for from 2s to 60s and then water quenching or air cooling only.

Claim 7. (Withdrawn) The method of claim 6, characterized in that wherein after solid solution treatment and water quenching, the ageing is at a temperature of 200 °C ~ 600 °C for 10s~60 min followed by air cooling for 2s ~ 60s and then water quenching.

Claim 8. (Withdrawn) A method of fabricating the titanium alloy with extra-low modulus and superelasticity of claim 1, including melting in vacuum and heat treatment, characterized in that wherein the heat treatment steps, the ageing is at a temperature of 200 °C ~600 °C c for 2 min ~ 48h by air cooling.

Claim 9. (Withdrawn) A processing method of titanium alloy with the super-low modulus and superelasticity of claim 1, including hot processing and cold processing, characterized in that wherein the cold processing steps consist of cold rolling, cold drawing, cold forging or cold swaging, the deformation of cold processing is less than 20%.

Claim 10. (Withdrawn) A processing method of titanium alloy with the super-low modulus and superelasticity of claim 1, including hot processing and cold processing, characterized in that wherein the cold processing steps consist of cold rolling, cold drawing, cold forging or cold swaging, nano-size material can be achieved when the deformation ratio of cold processing is higher than 50%.

Claim 11. (Withdrawn) The method of claim 10, characterized in that wherein the nano-size alloy is solid solution treated at a temperature from 500 °C to 850 °C for 10 s ~ 2h followed by water quenching.

Claim 12. (Withdrawn) The method of claim 10, characterized in that wherein super-high strength material can be achieved after ageing at temperature from 300 °C to 500 °C for 10m~10h.

Claim 13. (Withdrawn) The method of claim 10, characterized in that wherein the nano-size materials are solid solution treated at a temperature from 500 °C to 850 °C for 10s ~ 2h and then ageing at temperature from 300 °C to 550 °C for 10m~10h.

Claim 14. (Currently Amended) The titanium alloy of claim 2, wherein the alloy is the quaternary or the quinary alloy, which ~~at least one component of 0.1~12 wt % selected from~~ has tin and/or aluminum present in an amount of 0.1~ 12 Wt % in total.

Claim 15. (Currently Amended) The titanium alloy of claim 14, wherein the alloy is quaternary or the quinary alloy and includes tin and the zirconium and tin are 3~20 wt % in total.

Claim 16. (Previously presented) The titanium alloy of claim 2, wherein the alloy further comprises at least one interstitial element without toxicity selected from C or N or O with amount of less than 0.5 wt %.

Claim 17. (Previously presented) The titanium alloy of claim 3, wherein the alloy further comprises at least one interstitial element without toxicity selected from C or N or O with amount of less than 0.5 wt %.

Claim 18. (Previously presented) The titanium alloy of claim 4, wherein the alloy further comprises at least one interstitial element without toxicity selected from C or N or O with amount of less than 0.5 wt %.

Claim 19. (Previously presented) The titanium alloy of claim 14, wherein the alloy further comprises at least one interstitial element without toxicity selected from C or N or O with amount of less than 0.5 wt %.

Claim 20. (Previously presented) The titanium alloy of claim 15, wherein the alloy further comprises at least one interstitial element without toxicity selected from C or N or O with amount of less than 0.5 wt %.

Claim 21. (Currently amended) The titanium alloy of claim 1, wherein~~, in addition to the 30 wt % >niobium≥ 20 wt%, and 2~15 wt % zirconium,~~ the alloy ~~has a remainder which~~ includes~~, with or without one or more interstitial components, titanium, and~~ unavoidable impurity elements~~, and, when a quaternary or quinary alloy, the remainder also includes tin and/or aluminum.~~

Claim 22. (Currently amended) A titanium alloy with extra-low modulus and superelasticity, consisting essentially of 30 wt % >niobium≥ 20 wt%, 2~15 wt % zirconium~~, with or without an additional component of tin and/or aluminum, and with or without an interstitial component,~~ and balance titanium and unavoidable impurity elements~~, and, when the alloy is with the additional component of tin and/or aluminum, the balance further including tin and/or aluminum, respectively, and when the alloy is with the interstitial component the balance further including that interstitial component~~.

Claim 23. (Previously presented) The titanium alloy of claim 22, wherein the niobium and zirconium are 30~45 wt % in total.

Claims 24- 26. (Canceled)

Claim 27. (Currently amended) A ternary titanium alloy with extra-low modulus and superelasticity, characterized in that the metallic alloy comprises 30 wt % >niobium≥ 20 wt%, 2~15 wt % zirconium, balance titanium and ~~other~~ unavoidable impurity elements.

Claim 28. (Currently amended) The ternary titanium alloy of claim 27, wherein the niobium and zirconium represent 30~45 wt % in total.